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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,778	03/29/2007	Barbara Hoppe	13806/28	5508
26646 7590 12/18/2009 KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004				
EXAMINER				
LEE, REBECCA Y				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
12/18/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/581,778

**Applicant(s)**

HOPPE ET AL.

**Examiner**

REBECCA LEE

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-30 and 32-55 is/are pending in the application.
- 4a) Of the above claim(s) 35-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-30, 32-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of Claims***

Claims 1-23 and 31 are cancelled. Claims 35-55 are withdrawn. Claims 24-30 and 32-34 are present for examination on the merit where claims 24, 29 and 32 are amended in view of amendment filed 12/09/09.

### ***Status of Previous Rejections***

All previous rejections have been withdrawn in view of amendment filed 12/09/09.

New grounds of rejections have applied below.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24-30 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Chesnes et al. (US 20020157737).

Regarding claims 24-30 and 32, Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
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Ni	63-86	Balance	balance
Cr	5-17	6-17	6-17
Co	8-15	5-20	8-15
Mo	1-5	0-15	1-5
Al	2-8	3-8	3-8
Ta	1-8	0-5	1-5
Nb	0.1-2	0-2	0.1-2
Y	0.1-1	0-0.2	0.1-0.2
Hf	1-5	0-3	1-3
B	0.5-2.5	0-0.85	0.5-0.85

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges.

Furthermore, even though Shaw et al. do not expressly teach the disclosed alloy can be used as a solder alloy, since the composition of the alloy disclosed by Shaw et al. is similar to the one claimed, one of ordinary skill in the art would have expected the alloy of Shaw et al. can also be a solder alloy as claimed.

Shaw et al. neither expressly teach the alloy further comprises palladium in the claimed amount (amended feature of claims 24 and 29), nor teach the claimed melting range of the alloy (amended feature of claim 24).

Chesnes et al. teach a similar solder alloy further comprises 0-1% Pd (abstract).

One of ordinary skill in the art would have found it obvious to further include Pd in as taught by Chesnes et al. into the alloy of Shaw et al. in order to obtain an improved

solder alloy as taught by Chesnes et al. (section 0005). In addition, the amount of Pd in the alloy of Shaw et al. in view of Chesnes et al. overlaps the claimed amount, which is prima facie evidence of obviousness MPEP 2144.05 I.

In addition, since the solder alloy of Shaw et al. in view of Chesnes et al. appears to be substantially identical with the alloy claimed, one of ordinary skill in the art would have expected the solder alloy of Shaw et al. in view of Chesnes et al. to exhibit substantially the same properties, such as melting point range, as claimed.

Regarding claim 33, it is mostly rejected for the same reason as set forth in the rejections of claims 24-30 and 32 above.

Shaw et al. do not expressly teach the alloy further comprises silicon in the claimed amount.

Chesnes et al. teach a similar solder alloy further 0-1 % Si (abstract).

One of ordinary skill in the art would have found it obvious to further include Si in the claimed amount as taught by Chesnes et al. into the alloy of Shaw et al. in order to obtain an improved solder alloy as taught by Chesnes et al. (section 0005). In addition, the amount of Si in the alloy of Shaw et al. in view of Chesnes et al. overlaps the claimed amount, which is prima facie evidence of obviousness MPEP 2144.05 I.

Claims 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Rabinkin et al. (US 4802933) and Wakushima et al. (JP 63065044)

Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
Ni	balance	Balance	balance
Cr	9-11	6-17	9-11
Co	9-11	5-20	9-11
Mo	3.5-4.5	0-15	3.5-4.5
Al	3.5-4.5	3-8	3.5-4.5
Ta	1.5-2.5	0-5	1.5-2.5
Nb	0.5-1.5	0-2	0.5-1.5
Y	0.1-0.5	0-0.2	0.1-0.2
Hf	3.5-4.5	0-3	No overlap

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges. In addition, even though the amount of Hf disclosed by Shaw et al. does not overlap the claimed range, but is close enough and a prima facie case of obviousness still exists MPEP 2144.05 I.

Shaw et al. neither teach the alloy further comprises B and Pd in the claimed ranges, nor teach the claimed melting range of the alloy (amended feature of claim 24).

It is known that nickel alloys comprising palladium, as a brazing (solder material), exhibit high temperature strength as evidenced by the Background section of Rabinkin (Column 1, lines 22-25).

It would have been obvious to one of ordinary skill in the art to further include Pd into the alloy of Shaw et al. in order to obtain high temperature strength, good corrosion resistance and good erosion resistance as evidenced by Rabinkin (Column 1, lines 22-25). Furthermore, it is well held that discovering an optimum value of a result effective variable requires only routine skill in the art MPEP 2144.05 II. In the instant case, the amount of palladium in the alloy is a result effective variable since it would directly affect the mechanical properties of the alloy as evidenced by Rainkin. Therefore, one of ordinary skill in the art would have found it obvious to vary the amount of palladium in the alloy of Shaw et al. via routine optimization in order to achieve a solder alloy with desired high temperature strength, corrosion resistance and erosion resistance as taught by Rabinkin (Column 1, lines 22-25).

Wakushima et al. teach a solder alloy can further comprise 2-4% B.

It would have been obvious to one of ordinary skill in the art to further include B of 2-4% as a melting point depressant as taught by Wakushima et al. into the alloy of Shaw et al. in order prevent deterioration in strength and impact value as taught by Wakushima et al. (abstract).

In addition, since the solder alloy of Shaw et al. in view of Rabinkin et al. and Wakushima et al. appears to be substantially identical with the alloy claimed, one of ordinary skill in the art would have expected the solder alloy of Shaw et al. in view of Rabinkin et al. and Wakushima et al. to exhibit substantially the same properties, such as melting point range, as claimed.

***Response to Arguments***

Applicant's arguments with respect to claims 24-34 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's argument regarding the amended feature of the combination of palladium, boron and yttrium and the melting point range has been addressed above.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-



5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROY KING can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./  
Examiner, Art Unit 1793

/Roy King/  
Supervisory Patent Examiner, Art  
Unit 1793